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RELATIONSHIP OF AGE AND REDHEART  
TO RED-COCKADED WOODPECKER NEST TREES

by

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*Abstract*

*Although the red-cockaded woodpecker did nest in longleaf pine less than 60 years old, the birds mainly utilized old growth trees - 60 to 180 years in age on three districts of the Kisatchie National Forest. Signs of redheart were quite rare, although sampling at nest holes was not performed. It also appeared from information gathered and field observations that this bird is well established on the Kisatchie.*

Introduction

Most documentation indicates that redheart, caused by Phellinus pini (Thore ex Fr.) Pilat, is needed for a red-cockaded woodpecker, [Dendrocopis borealis (Vieillot)], nest tree (Jackson 1977). Until recently many workers have felt that birds will not nest in trees younger than 60 years old. However, the tree condition itself may not be the limiting factor, but rather the availability of food in the surrounding stand (Ligon 1971). Redheart, too, is considered to be a problem in old growth forests (Nelson 1931; Gruschow and Trousdale 1958). Therefore, one would suspect that this bird would concentrate there.

Our purpose in this evaluation was to determine if red-cockaded woodpeckers would colonize trees younger than 60 years old and determine, by visual inspection, if redheart was present in nest trees.

Materials and Methods

One hundred nest trees were selected from three districts of the Kisatchie National Forest in Louisiana - Vernon, Evangeline, and Catahoula. Locations of trees were taken from maps provided by National Forest personnel. The trees were identified by the double green banding of paint applied by the forest personnel. Trees are also easily recognized by the copious flow of pitch started by the woodpeckers.

Data were taken on the presence or absence of conks of *P. pini* and/or punk knots on nest tree boles. The age and understory condition of these trees were also determined. A "hotel" or a nest tree with numerous cavities is shown in figure 1.

### Results

#### Age Determinations

Nest trees under 60 years of age were uncommon. Only 14 percent were in this group. Even some of these, while showing less than 60 rings, were probably older than 60; decay of the heart prevented a more accurate determination. Fifty-five percent of the trees were greater than 80. There were 30 percent older than 100 years. Thus, in this sample the woodpecker nested in older trees. Refer to table 1 for data.

#### Presence of Redheart Signs

Conks were present on only two trees while punk knots were seen on 26 percent of the trees. Punk knots are branch stubs with punky brown fungus material which the tree tries to overgrow. They are less reliable signs of fungal presence than conks, however, conks may be obliterated by nest hole excavation.

#### Understory Condition

Nest trees were most often found in open stands usually composed of pole size pine (63 percent). This was particularly true of Fort Polk Military Reservation on the Vernon District. However, many trees on the Evangeline were associated with drainages populated with sapling blackjack oak (*Quercus marilandica* Muench.) - 22 percent. Usually stands or openings having brush or undergrowth higher than five feet are considered less than optimum for the bird since it does not feed below this level of highest understory growth.

### Discussion

While some trees were less than 60 it appears that red-cockaded woodpeckers are utilizing old growth (60-180 years) trees, in the main, on the Kisatchie. This is not surprising since their fledglings, which must be attended by "helper adults" as well as the parents, can be fed more easily from older rather than younger pine stands.

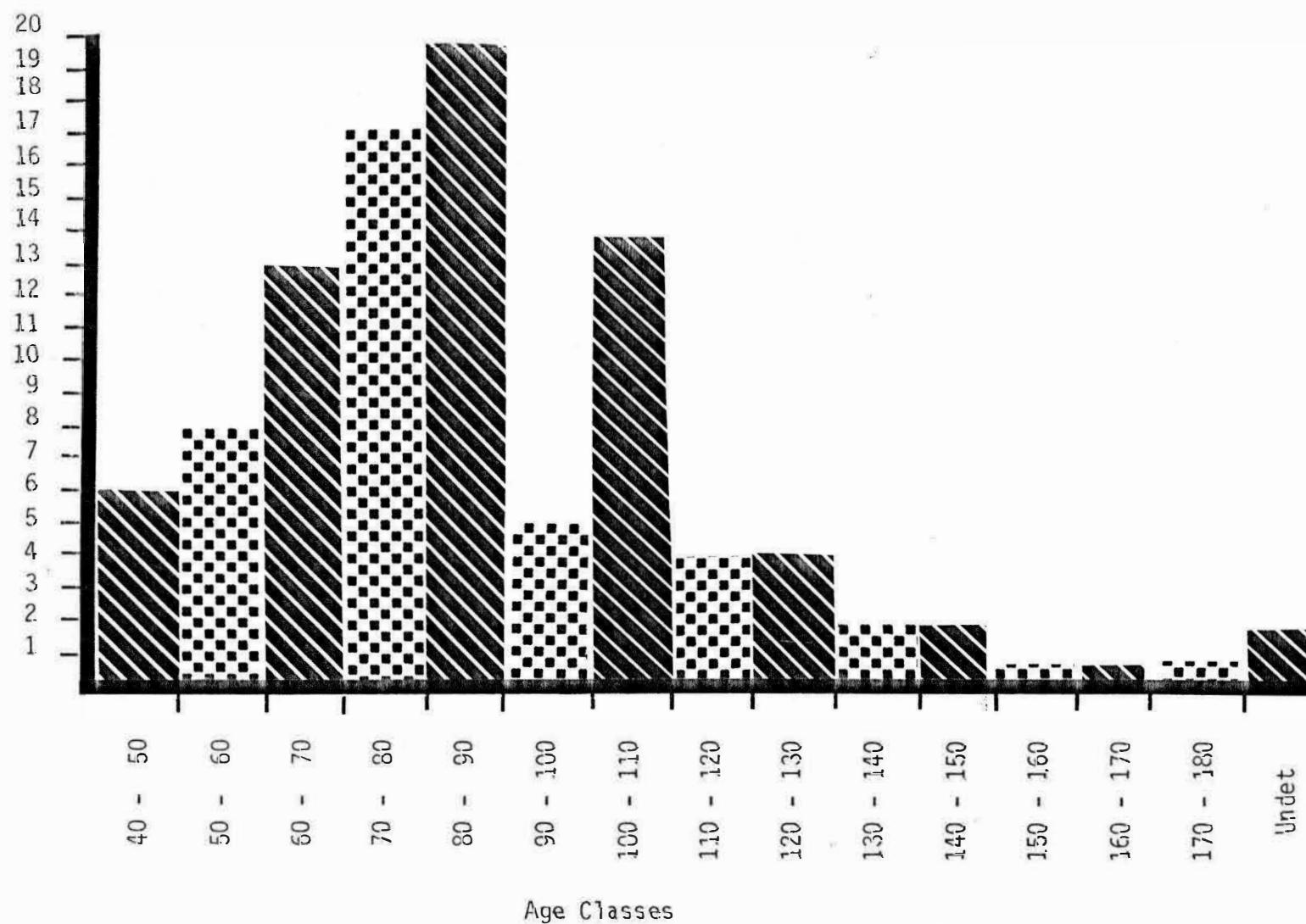
Many of the older longleaf pine sampled were even older than indicated since often the increment borer was not long enough to reach the center. Thus, the figures, if anything, are too conservative.

This evaluation points out the futility of trying to identify redheart by visual inspection. Since this rot is found most often in the second log such crude methods would fail to indicate redheart's presence (Gruschow and

Figure 1. Known as the "hotel" on the Evangeline District this 100-year old longleaf pine harbored approximately 24 nest and/or start holes of the red-cockaded woodpecker.



Table 1. Age associated with red-cockaded woodpecker nest trees on the Kisatchie National Forest - Fall, 1981.



Trousdale 1958). Recovery of P. pini is greatly enhanced by culturing from material near the nest cavity. Sampling at breast height and looking for signs are far less fruitful (Lane, personal communication).

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